

COMMONWEALTH of VIRGINIA

DEPARTMENT OF ENVIRONMENTAL QUALITY PIEDMONT REGIONAL OFFICE

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STATEMENT OF LEGAL AND FACTUAL BASIS

Honeywell International, Inc. – Colonial Heights Site Colonial Heights, Virginia Permit No. PRO50831

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9VAC 5 Chapter 80, Honeywell International, Inc. has applied for a renewal Title V Operating Permit for its Colonial Heights facility. The Department has reviewed the application and has prepared a draft renewal Title V Operating Permit.

Engineer/Permit Contact: Cheryl L. Mayo	Date: 8/29/2017
Air Permit Manager: James E. Kyle, P.E. Air Permit Manager	Date: 8/29/2017
Regional Director: Kyle Ivar Winter, P.E. Deputy Regional Director	Date: 29 AVB 17

FACILITY INFORMATION

Permittee

Honeywell International, Inc. – Colonial Heights Site 15801 Woods Edge Road Colonial Heights, Virginia 23834

Facility

Colonial Heights Site 15801 Woods Edge Road Colonial Heights, Virginia 23834

County-Plant Identification Number: 51-041-0114

FACILITY DESCRIPTION

NAICS Code: 325222 (organic fibers, non-cellulosic) – The facility manufactures high performance polyolefin fibers (SPECTRA) used in the fabrication of body armor and other performance fiber applications.

Built in 1965, the facility historically served as a research and development center. A boiler was installed in the original facility in 1965 with a second one added in 1969. The plant's focus has shifted from research and development to production due to the high demand for its product. The polyolefin fiber is produced by mixing polyethylene, antioxidant, and walpit oil to form a polymer, which is extruded into fiber. Walpit oil (particulate and VOC) is emitted during the extrusion process, with emissions captured and controlled by oil mist eliminators. The walpit oil is then separated from the fiber using a non-HAP, non-VOC chlorinated solvent which is classified as an Ozone Depleting Substance (ODS Chlorinated Solvent), and then dried. ODS Chlorinated Solvent emissions from the separators and dryers are captured and routed to a carbon adsorption unit for emission control. Lines 2, 3, 4, 5 and 8 are routed to older carbon beds (with 90% efficiency) followed by a Halosorb unit (molecular sieve) for an overall control efficiency of 99% (calculated as a 24-hour rolling average). ODS Chlorinated solvent emissions from Lines 12 and 13 are routed to carbon adsorption units with control efficiencies of at least 95% (calculated as a 24-hr rolling average).

Since the original Title V permit was issued, the emergency diesel fire pump engine included in the facility's State Operating Permit has become subject to the RICE MACT (40 CFR 63, Subpart ZZZZ). A Cummins diesel emergency engine is also subject to the RICE MACT, and a propane-fired Generac generator is subject to NSPS Subpart JJJJ. The new MACT and NSPS requirements have been incorporated into this permit.

Honeywell International Inc. is a Title V major source of a regulated ozone depleting substance (ODS Chlorinated Solvent). This source is located in an attainment area for all pollutants, and is a PSD minor source as well as an area source of Hazardous Air Pollutants. The facility is currently permitted under a facility-wide State Operating Permit issued on December 29, 2015.

The original Title V permit was issued on September 2, 2008, with a significant modification issued on April 12, 2016. Although the original Title V permit expired on September 1, 2013, a timely and complete renewal application was received on February 4, 2013 (as stated in a review letter dated April 4, 2013), so the facility continues to operate under Title V application shield provisions.

COMPLIANCE STATUS

A full compliance evaluation of this facility, including a site visit (on May 24, 2016), has been conducted. The facility was found to be out of compliance with seven "applicable requirements" (conditions) of the April 12, 2016 Title V permit:

Conditions 8 & 9: the log of monthly visible emissions was available only for 2016 (the permit requires that these records be kept for five years)

Conditions 32 & 33i: records of the required quarterly visible emissions were missing for the 4th quarter of 2014 & 2015

Condition 44: The facility was not able to provide records of the yearly operating cycles for the Lindberg Oven

Condition 46 & 47a: The log of annual inspection for the sealed cover of the Oil/Water Separator was not available for inspection.

On September 20, 2016, DEQ sent a Request for Corrective Action to address these issues. The facility responded with a letter dated October 14, 2016, noting that corrective action had been taken. DEQ found the response acceptable and deemed the facility in compliance with all applicable requirements.

In addition, all reports and other data required by permit conditions or regulations, which are submitted to DEQ, are evaluated for compliance. Based on these compliance evaluations, the facility has not been found to be in violation of any state or federal applicable requirements at this time.

CHANGES TO THE PERMIT

Since the original issuance of this Title V Permit on September 2, 2008, the following changes have taken place to the applicable requirements at this facility:

State Operating Permit: A significant amendment to the facility's State Operating Permit was issued on December 29, 2015. This permit allowed for grain loading standards in addition to or in place of control efficiency requirements for the oil mist eliminators, incorporated a 24-hour average period for the carbon bed control efficiency requirements, and instituted monthly mass balance to demonstrate compliance with the 100 tons/yr ODS Chlorinated Solvent emissions in place of daily flow rate monitors.

Title V Significant Modification: A significant modification to the Title V Federal Operating Permit was issued on April 12, 2016 to incorporate the changes to the State Operating Permit issued on December 29, 2015.

RICE MACT (40 CFR 63, Subpart ZZZZ): The source has a fire pump powered by an emergency diesel engine (CP-99), as well as two 32-HP propane-fired emergency engines (GG-01 and GG-03). RICE MACT applicable requirements have been added to the Title V Permit for CP-99 and GG-01 as existing units located at area sources of HAP. Emergency engine GG-03 will show compliance with the RICE MACT by meeting the requirements of NSPS Subpart JJJJ.

NSPS (40 CFR 60, Subpart JJJJ): Because it was constructed in 2013, emergency engine GG-03 is also subject to the New Source Performance Standards (40 CFR 60, Subpart JJJJ) that apply to stationary spark ignition engines with a maximum engine power greater than 19 kW (25 HP).

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EMISSION UNITS AND CONTROL DEVICE IDENTIFICATION

Equipment to be operated at this facility consists of:

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Applicable Permit Date		12/29/ 2015	12/29/ 2015	12/29/2015	-			12/29/2015	12/29/2015	12/29/2015	12/29/2015	12/29/2015
Pollutant Controlled		ļ		ŀ	i	-		PM/VOC	ODS Chlorinated Solvent	PM/VOC	ODS Chlorinated Solvent	PM/VOC
PCD ID		NA	NA	NA	NA	NA		OME F-5868	СВ/НZ	OME F-5868	CB/HZ	OME F-5868
Pollution Control Device (PCD) Description		I	1	1		1		Oil Mist Eliminator	Carbon Adsorption Bed/Molecular Sieve	Oil Mist Eliminator	Carbon Adsorption Bed/Molecular Sieve	Oil Mist Eliminator
Size/Rated Capacity*		17.3 MMBtu/hr	22.3 MMBtu/hr	0.71 MMBtu/hr	32 hp	32 hp		46.4 fiber units	46.4 fiber units	61.8 fiber units	61.8 fiber units	61.8 fiber units
Emission Unit Description		Babcock & Wilcox boiler Model #FMD 1205 Natural Gas fired	Bigelow boıler Model #S5488 Natural Gas fired	Cummins Diesel Engine (Fire Pump)	Generac Propane-Fired Emergency Engine	Cummins Propane-Fired Emergency Engine		Polyolefin Fiber Line	Polyolefin Fiber Line	Polyolefin Fiber Line	Polyolefin Fiber Line	Polyolefin Fiber Line
Stack ID	Equipment	7V-5	7V-5	7V-5	ŀ			13V-15	13V-50	13V-15	13V-50	13V-15
Emission Unit ID	Fuel Burning Equipment	SG-1	SG-2	CP-99	GG-01	GG-03	Spectra Lines	Line 2		Line 3		Line 4

Applicable Permit Date	12/29/2015	12/29/2015	12/29/2015	12/29/2015	12/29/2015	12/29/2015	12/29/2015	12/29/2015	12/29/2015		12/29/2015		12/29/2015
Pollutant Controlled	ODS Chlorinated Solvent	PM/VOC	ODS Chlorinated Solvent	PM/VOC	ODS Chlorinated Solvent	PM/VOC	ODS Chlorinated Solvent	PM/VOC	ODS Chlorinated Solvent				1
PCD ID	CB/HZ	OME F-5868	CB/HZ	OME F-5868, OME-5,8 (backup)	CB/HZ	OME-12	CB-4	OME-13	CB-5				
Pollution Control Device (PCD) Description	Carbon Adsorption Bed/Molecular Sieve	Oil Mist Eliminator	Carbon Adsorption Bed/Molecular Sieve	Oil Mist Eliminator	Carbon Adsorption Bed/Molecular Sieve	Oil Mist Eliminator	Carbon Adsorption Bed	Oil Mist Eliminator	Carbon Adsorption Bed		•		-
Size/Rated Capacity*	61.8 fiber units	30.9 fiber units	30.9 fiber units	30.9 fiber units	30.9 fiber units	6.6 fiber units	6.6 fiber units	6.67 fiber units	6.67 fiber units		1		1
Emission Unit Description	Polyolefin Fiber Line	Polyolefin Fiber Process Line	Polyolefin Fiber Process Line	Polyolefin Fiber Process Line	Polyolefin Fiber Process Line	Polyolefin Fiber Process Line	Polyolefin Fiber Process Line	Polyolefin Fiber Process Line	Polyolefin Fiber Process Line	erization	Spinning Equipment Burnoff Oven	Laboratory Facilities	Laboratory Facilities
Stack ID	13V-50	13V-4	13V-50	13V-4	13V-50	23V-01	23V-02	23V-01	23V-02	Building 4 Pilot Plant Polymerization		5. 6. and 8:	
Emission Unit ID	Line 4	Line 5		Line 8		Line 12		Line 13		Building 4 Pile	Lindberg Oven	ings 2, 3,	1

*The Size/Rated capacity and PCD efficiency is provided for informational purposes only, and is not an applicable requirement

EMISSIONS INVENTORY

Actual emissions reported for 2016 are summarized in the following tables.

2016 Actual Emissions

201	2016 Criteria Pollutant and Greenhouse Gas Emissions in Tons/Year							
VOC	СО	SO_2	PM ₁₀	PM _{2 5}	NO _X	CO ₂ e		
2.61	7.24	0.05	3.67	3.57	8.63	Not reported		

2016 Facility Hazardous Air Pollutant Emissions

Pollutant	2016 Hazardous Air Pollutant Emission in Tons/Yr
Acetonitrile	0.02
Chloroform	0.02
Formaldehyde	0.01
Methanol	0.13
m-Xylene	0.02
Toluene	0.02

Additionally, the facility emitted 135.42 tons of ODS Chlorinated Solvent in 2016.

FUEL BURNING EQUIPMENT REQUIREMENTS -BOILERS (SG-1 and SG-2)

The basis for the limitations on the existing boilers (SG-1 and SG-2) are the operational restrictions listed in the current State Operating Permit dated December 29, 2015 which are based on AP-42 factors. Pollutants limited include PM-10, NOx and CO, because they exceed 0.5 tons/year. These boilers were included in the original July 10, 1998 State Operating Permit to provide Federally-enforceable limits on SO₂, since the use of #6 oil with a sulfur content of greater than 0.5% would have resulted in a potential to emit of more than 100 tons per year of SO₂. Although the facility voluntarily switched to natural gas fuel only (and is therefore not subject to MACT Subpart JJJJJJ), the limits have been retained in the permit for inventory purposes and because without limits on type of fuel and/or sulfur content, the units would still would be potentially major. The boilers are not subject to NSPS Subpart Dc for boilers (with a capacity greater than 10 MMBtu/hr, but less than 100 MMBtu/hr), since they were constructed before June 9, 1989.

Limitations

- O Condition 15 of the 12/29/15 SOP (Condition 1 of the Title V Permit) state that the approved fuel for the boilers is natural gas. This limitation was taken to give the source synthetic minor status. Limiting the boilers to natural gas fuel also means that they are not subject to MACT Subpart JJJJJJ requirements.
- o Conditions 17 & 18 of the 12/29/15 SOP (Conditions 2 & 3 of the Title V Permit) limit the throughput of natural gas to the boilers. The allowed throughput for each boiler is calculated assuming that it operates 8760 hrs/yr at full capacity.
- O Conditions 23 & 24 of the 12/29/15 SOP (Conditions 4 & 5 of the Title V Permit) limit the annual emissions from the boilers. These limitations are for inventory purposes. The emission limits for each boiler are calculated using AP-42 factors, assuming the boilers operate 8760 hrs/yr. Only pollutants calculated to be more than 0.5 ton/yr are included in accordance with VADEQ policy.
- O Condition 32 of the 12/29/15 SOP (Condition 6 of the Title V Permit) limits visible emissions to 20% opacity, except during one six-minute period in any one hour in which visible emissions shall not exceed 60% opacity. The units are subject to the visible emissions standard for existing sources (and the Rule 4-8 Emission Standards for Fuel Burning Equipment at 9 VAC 5-40-940, which is identical), since they were installed prior to 1972.

O Condition 7 (Title V Permit) requires that emissions from the boilers shall be controlled by good operation and maintenance of the boilers. This condition ensures that the units are well-maintained and are able to meet visible emission standards.

Monitoring/Recordkeeping

The monitoring and recordkeeping requirements in Condition 36 of the SOP have been modified to meet Part 70 requirements. The boilers are not subject to a CAM review, since there is no control equipment installed on the boilers.

- o Condition 8 (Title V Permit) requires the permittee to perform monthly visible emission checks to show compliance with the visible emissions limitations for the boilers (SG-1 and SG-2). A Method 9 VEE will be required if visible emissions are present unless corrective action is taken. This condition fulfills the monitoring requirement of Part 70.
- O Condition 36(b) of the 12/29/15 SOP (Condition 9 of the Title V Permit) requires the permittee to keep records of the monthly throughput of natural gas to the boilers. A log of visible emissions observations, visible emissions evaluations, and any corrective actions taken as a result is also required by the Title V permit. The records will be inspected for compliance with the conditions of the State Operating Permit and with the monitoring requirement in Condition 8 of the Title V permit.
- O Condition 10 (Title V Permit) requires the permittee to keep records of boiler operator training. These records will be used to demonstrate compliance with Condition 7 of the Title V permit.

The following Virginia Administrative Code that has specific emission requirements has been determined to be applicable:

9 VAC 5-40-80: Emission Standards of Performance for Stationary Sources – Standard for Visible Emissions from Existing Stationary Sources.

FUEL BURNING EQUIPMENT REQUIREMENTS - DIESEL EMERGENCY FIRE PUMP ENGINE (CP-99)

The basis for the limitations on the fire pump engine (CP-99) are the operational restrictions listed in the current State Operating Permit dated December 29, 2015 which are based on state BACT requirements. NOx emissions are limited by the permit. The engine is also subject to MACT Subpart ZZZZ as an existing emergency engine located at an area source of HAP emissions.

Limitations

- Condition 16 of the 12/29/15 SOP (Condition 11 of the Title V Permit) allows the use of distillate oil as fuel in the fire pump engine. This requirement defines the fuel type for MACT applicability.
- O Condition 19 of the 12/29/15 SOP (Condition 12 of the Title V Permit) limits the throughput of distillate oil to the fire pump engine. Since this is an emergency engine, the throughput was calculated based on 500 hours/yr operation at full capacity. This limit is based on the EPA (John Seitz) memo from September 6, 1995 regarding the PTE for emergency generators.
- O Condition 20 of the 12/29/15 SOP (Condition 13 of the Title V Permit) defines the distillate oil fuel requirements and limits fuel sulfur content to 0.5%. The fuel oil specifications and fuel sulfur limit were added to the original State Operating Permit issued July 10, 1998, which imposed facility-wide limits on the facility, including existing equipment. Because it is an existing engine at an area source, the fire pump engine does not have ultra-low-sulfur diesel fuel requirements.
- O Condition 25 of the 12/29/15 SOP (Condition 14 of the Title V Permit) limits NOx emissions to 0.8 tons/yr. This limitation is for inventory purposes. The emission limits for the engine was calculated using AP-42 factors, assuming the engine operates 500 hrs/yr. NOx was the only pollutant calculated to be more than 0.5 ton/yr.
- O Condition 15 (Title V Permit) limits visible emissions to 20% opacity, except during one sixminute period in any one hour in which visible emissions shall not exceed 60% opacity. The engine is subject to the visible emissions standard for existing sources, since it was installed prior to 1972.
- O Condition 16 (Title V Permit) incorporates the requirements of MACT Subpart ZZZZ. This condition fulfills Part 70 requirements to include all applicable requirements into the Title V permit. The fire pump engine is an existing emergency diesel engine located at an area source of HAP.

The following Virginia Administrative Code that has specific emission requirements has been determined to be applicable:

9 VAC 5-40-80: Emission Standards of Performance for Stationary Sources – Standard for Visible Emissions from Existing Stationary Sources

Monitoring/Recordkeeping

EPA has stated that MACT (40 CFR 63) and NSPS Standards promulgated after 1990 can be considered by default to include monitoring, recordkeeping, and reporting provisions sufficient to qualify as periodic monitoring without additional requirements. The engine is not subject to a CAM review, since there is no control equipment installed on the engine.

- O Condition 17 of the Title V Permit requires the permittee to perform monthly visible emission checks to show compliance with the visible emissions limitations for the fire pump engine (CP-99). A Method 9 VEE will be required if visible emissions are present unless corrective action is taken. This condition fulfills the monitoring requirement of Part 70.
- o Condition 21 of the 12/19/15 SOP (Condition 18 of the Title V Permit) requires that the permittee obtains fuel supplier certifications with each shipment of distillate oil. *This requirement is to demonstrate compliance with the fuel specifications and sulfur limit contained in Title V Condition 13*.
- o Condition 36 of the 12/19/15 SOP (Condition 19 of the Title V Permit) requires that records be kept to show compliance with the permit, including monthly and annual records of fuel oil and fuel supplier certifications, visible emissions evaluations, and a log of actions taken during periods of malfunction to minimize emissions. The records will be inspected for compliance with the conditions of the State Operating Permit and with the monitoring requirement in Condition 17 of the Title V permit.

FUEL BURNING EQUIPMENT REQUIREMENTS — Generac Emergency Engine (GG-01)

The Generac Emergency Engine (GG-01) is propane-fired and rated at 32 HP. It is exempt from NSR permitting, however it is subject to MACT (40 CFR 63) Subpart ZZZZ.

Limitations

- O Condition 20 (Title V Permit) states that the emergency engine is designed to use propane fuel. Applicable requirements have been incorporated into the Title V permit based on the use of propane as fuel for this spark ignition engine.
- O Condition 21 (Title V Permit) limits the emergency engine operation to 500 hours/year. This limit is based on the EPA (John Seitz) memo from September 6, 1995 regarding the PTE for emergency generators.

- O Condition 22 (Title V Permit) requires that the permittee to comply with the requirements of the RICE MACT, including emission limitations, operating limitations, testing and compliance, monitoring, operating and maintenance, notification, recordkeeping and reporting requirements. This condition fulfills Part 70 requirements to include all applicable requirements into the Title V permit. The Generac Emergency Engine (GG-01) is a propane-fired engine with maximum engine power > 19 kW(25 HP), manufactured before 2001, and located at an area source of HAP. It is not subject to NSPS Subpart JJJJ.
- O Condition 23 (Title V Permit) limits visible emissions, which shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity. This requirement is taken from 9 VAC 5-50-80, the opacity standard for new and modified sources.

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-50-80: Emission Standards of Performance for Stationary Sources – Standard for Visible Emissions from New and Modified Stationary Sources

Monitoring/Recordkeeping

EPA has stated that MACT (40 CFR 63) and NSPS Standards promulgated after 1990 can be considered by default to include monitoring, recordkeeping, and reporting provisions sufficient to qualify as periodic monitoring without additional requirements. The engine is not subject to a CAM review, since there is no control equipment installed on the engine.

- O Condition 24 (Title V Permit) requires the permittee to perform monthly visible emission checks to show compliance with the visible emissions limitations for the emergency engine (GG-01). A Method 9 VEE will be required if visible emissions are present unless corrective action is taken. This condition fulfills the monitoring requirement of Part 70.
- O Condition 25 (Title V Permit) requires the permittee to keep records of operating hours, visible emissions observations, periods of malfunction, and any corrective actions taken. The records will be inspected for compliance with Condition 21 and with the monitoring requirement in Condition 24 of the Title V permit.

FUEL BURNING EQUIPMENT REQUIREMENTS — Cummins Emergency Engine (GG-03)

The Cummins Emergency Engine (GG-03) is propane-fired and rated at 32 HP. It is exempt from NSR permitting, however it is subject to MACT (40 CFR 63) Subpart ZZZZ and NSPS (40 CFR 60) Subpart JJJJ. The facility will show compliance with MACT Subpart ZZZZ by complying with the requirements of NSPS Subpart JJJJ.

Limitations

- O Condition 26 (Title V Permit) states that the emergency engine is designed to use propane fuel. Applicable requirements have been incorporated into the Title V permit based on the use of propane as fuel for this spark ignition engine.
- O Condition 27 (Title V Permit) limits the emergency engine operation to 500 hours/year. This limit is based on the EPA (John Seitz) memo from September 6, 1995 regarding the PTE for emergency generators.
- o Condition 28 (Title V Permit) requires that the permittee to comply with the requirements of the New Source Performance Standards (40 CFR 60) Subpart JJJJ for the Cummins Emergency Engine (GG-03), including emission limitations, operating limitations, testing and compliance, monitoring, operating and maintenance, notification, recordkeeping and reporting requirements. This condition fulfills Part 70 requirements to include all applicable requirements into the Title V permit. The Cummins Emergency Engine (GG-03) is a propane-fired engine with maximum engine power > 19 kW(25 HP), manufactured after 2006, and located at an area source of HAP. It is subject to NSPS Subpart JJJJ. The facility will also demonstrate compliance with the RICE MACT by complying with the requirements of 40 CFR 60, Subpart JJJJ.
- O Condition 29 (Title V Permit) limits visible emissions, which shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity. This requirement is taken from 9 VAC 5-50-80, the opacity standard for new and modified sources.

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-50-80: Emission Standards of Performance for Stationary Sources – Standard for Visible Emissions from New and Modified Stationary Sources

Monitoring/Recordkeeping

EPA has stated that MACT (40 CFR 63) and NSPS Standards promulgated after 1990 can be considered by default to include monitoring, recordkeeping, and reporting provisions sufficient to qualify as periodic monitoring without additional requirements. The engine is not subject to a CAM review, since there is no control equipment installed on the engine.

- O Condition 30 (Title V Permit) requires the permittee to perform monthly visible emission checks to show compliance with the visible emissions limitations for the Cummins emergency engine (GG-03). A Method 9 VEE will be required if visible emissions are present unless corrective action is taken. This condition fulfills the monitoring requirement of Part 70.
- O Condition 31 (Title V Permit) requires the permittee to keep records of operating hours, visible emissions observations, periods of malfunction, and any corrective actions taken. The records will be inspected for compliance with Condition 27, and the monitoring requirement in Condition 30 of the Title V permit.

PROCESS EQUIPMENT REQUIREMENTS — Polyolefin Fiber Production Lines (Lines 2, 3, 4, 5, 8, 12 and 13)

The current Polyolefin Fiber Production Lines were permitted as new and modified sources. Lines 2-5 and Line 8 were permitted between 1984 and 1997. These lines were included in the original July 10, 1998 SOP, which was issued to establish the facility as a synthetic minor source for Title V purposes. The SOP limited ODS Chlorinated Solvent to 99.0 tons/yr. Line 12 was then permitted as a new source on June 6, 2002, and the facility modified its SOP to include Line 12, even though ODS Chlorinated Solvent was limited to 138.2 tons/yr and the facility was considered major for Title V purposes. Line 13 was permitted in a minor NSR permit action on October 15, 2004, and incorporated into the facility-wide State Operating Permit on October 29, 2007.

40 CFR Part 82 requirements pertaining to Ozone Depleting Substances are addressed in General Condition No. 114, Stratospheric Ozone Protection.

Limitations

O Condition 1 of the 12/29/2015 SOP (Condition 32 of the Title V Permit) requires that ODS Chlorinated Solvent emissions from Lines 2, 3, 4, 5, and 8 be controlled by a combination of carbon bed adsorbers and a molecular sieve, with a removal efficiency of at least 99% (rolling 24-hr average). This is a BACT requirement.

- o Condition 2 of the 12/29/2015 SOP (Condition 33 of the Title V Permit) requires that ODS Chlorinated Solvent emissions from Line 12 be controlled by a carbon bed adsorber with a removal efficiency of at least 95% (rolling 24-hr average). *This is a BACT requirement*.
- o Condition 3 of the 12/29/2015 SOP (Condition 34 of the Title V Permit) requires that ODS Chlorinated Solvent emissions from Line 13 be controlled by a carbon bed adsorber with a removal efficiency of at least 95% (rolling 24-hr average). *This is a BACT requirement*.
- O Condition 4 of the 12/29/2015 SOP (Condition 35 of the Title V Permit) requires that Honeywell shall maintain a Preventative Operation Plan (PMO Plan) for Lines 12 and 13, to minimize ODS Chlorinated Solvent emissions during startup, shutdown, maintenance, and malfunction. This condition was added to the State Operating Permit in conjunction with the change in the compliance demonstration for Lines 12 & 13. Because Honeywell demonstrates compliance with its annual ODS Chlorinated Solvent emission limit by generating a facility-wide ODS Chlorinated Solvent emission factor on a 12-month rolling basis, the plan ensures that Honeywell maintains consistent fugitive emission minimization practices and procedures over time such that there will be a reasonable assurance that the relative level of fugitive emissions from Lines 12 and 13 remain constant.
- o Condition 5 of the 12/29/2015 SOP (Condition 36 of the Title V Permit) requires that particulate emissions from Lines 2, 3, 4, 5, and 8 be controlled by a mist eliminator with a control efficiency of at least 97% (or a 0.002 gr/dscf standard, whichever is less stringent). This is a BACT requirement.
- O Condition 6 of the 12/29/2015 SOP (Condition 37 of the Title V Permit) requires that particulate emissions from Line 12 be controlled by a mist eliminator with a control efficiency of at least 97% (or a 0.002 gr/dscf standard, whichever is less stringent). This is a BACT requirement.
- O Condition 7 of the 12/29/2015 SOP (Condition 38 of the Title V Permit) requires that particulate emissions from Line 13 be controlled by a mist eliminator with a control efficiency of at least 97% (or a 0.002 gr/dscf standard, whichever is less stringent). This is a BACT requirement.
- o Condition 13 of the 12/29/2015 SOP (Condition 39 of the Title V Permit) limits the production of polyolefin fiber to 102.8 fiber units (production units are held to be confidential). Although not designated as BACT in the underlying permit, this condition provides an enforceable means to limit emissions based on BACT.

- O Conditions 22 and 31 of the 12/29/2015 SOP (Conditions 40 and 43 of the Title V Permit) limit criteria pollutant emissions, limit ODS Chlorinated Solvent emissions (a non-HAP, non-criteria pollutant regulated by Title VI of the Clean Air Act), and limit visible emissions to 5 percent for the production of polyolefin fiber. *These are BACT requirements*.
- O Conditions 28 & 29 of the 12/29/2015 SOP (Conditions 41 & 42 of the Title V Permit) limit Line 12 and Line 13 ODS Chlorinated Solvent emissions to 100 tons/yr each (notwithstanding the facility-wide ODS Chlorinated Solvent limit of 190.8 tons/yr). In addition, these conditions provide a method to calculate monthly and annual ODS Chlorinated Solvent emissions by calculating an emission factor (ODS Chlorinated Solvent emissions divided by annual facility-wide emissions) on a monthly basis. This compliance demonstration method replaced an earlier method based actual flow rates that featured a measurement error (13 lbs/hr) more than twice as large as the Line 12 or Line 13 fugitive emission rates, and resulted in frequent negative emission values on both a monthly basis and a rolling 12-month basis.

Monitoring/Recordkeeping

The Title V Permit includes Compliance Assurance Monitoring (CAM) requirements (Conditions 48-57 of the Title V permit) for the oil mist eliminators controlling PM/VOC emissions from the polyolefin fiber production lines.

The oil mist eliminators which control PM/VOC emissions from the polyolefin fiber production lines are subject to CAM because of the following:

- The facility is a major source subject to Title V permitting.
- The polyolefin fiber lines are subject to emission limitations.
- The emission limitations require the use of a control device.
- The uncontrolled emissions from the polyolefin fiber lines are above major source thresholds.

Solvent emissions are subject to a continuous compliance demonstration method and are therefore exempt from CAM per 40 CFR 64.2(b)(1)(vi).

o Condition 33 & 34 of the 12/29/2015 SOP (Conditions 44 & 45 of the Title V Permit) require that the carbon bed adsorbers used for the capture and control of ODS Chlorinated Solvent emissions from Lines 12 & 13 be equipped with devices to measure gas inlet and outlet concentrations of ODS Chlorinated Solvent, as well as a high concentration alarm (greater than 100 ppm). These requirements provide for monitoring to show compliance with Conditions 33 and 34 of the Title V permit.

- O Condition 35 of the 12/29/2015 SOP (Condition 46 of the Title V Permit) requires that the monitoring devices required by Conditions 44 & 45 of the Title V permit be observed no less than once per day, and that operators shall respond promptly to any high concentration alarm. These requirements provide for monitoring to show compliance with Conditions 33 and 34 of the Title V permit, and to ensure prompt corrective action if high concentration is detected.
- O Condition 36 of the 12/29/2015 SOP (Condition 58 of the Title V Permit) requires the permittee to keep records of ODS Chlorinated Solvent consumption, polyolefin fiber production, monthly emission calculations for Lines 12 & 13, monitoring records, and any stack test data, as well as visible emissions data. The records will be inspected for compliance with Title V Conditions 32-43, and the monitoring requirement in Conditions 44-47 of the Title V permit.
- O Condition 47 (Title V Permit) requires the permittee to perform quarterly visible emission checks to show compliance with the visible emissions limitations for the polyolefin fiber production lines. A Method 9 VEE will be required if visible emissions are present unless corrective action is taken. This condition fulfills the monitoring requirements of Part 70. Emissions are quarterly rather than monthly, because it is unlikely based on past performance that the stacks from the polyolefin fiber lines will exhibit visible emissions.

PROCESS EQUIPMENT REQUIREMENTS - Buildings 2, 3, 5, 6, and 8 (Laboratory Facilities)

The laboratory facilities are existing, but were included in the July 10, 1998 SOP and subsequent State Operating Permits in order to provide an enforceable limit on the VOC used in the laboratories. Limits on Hazardous Air Pollutant emissions are included in a facility-wide limit (Title V Condition 63).

Limitations

O Condition 27 of the 12/29/2015 SOP (Condition 59 of the Title V Permit) limits criteria pollutant emissions (VOC) from the laboratory facilities located in Buildings 2, 3, 5, 6, and 8. This requirement was included in the facility's original State Operating Permit dated July 10, 1998 in order to limit facility-wide emissions for synthetic minor status. It is included for inventory purposes.

Monitoring/Recordkeeping

o Condition 36(i) of the 12/29/2015 SOP (Condition 60 of the Title V Permit) includes requirements for maintaining records of all monitoring required by the permit. These records include the annual throughput of each chemical containing volatile organic compounds

and/or hazardous air pollutants as defined by Section 112 (b)(1) of the Clean Air Act used in the laboratories at the facility. The purpose of this requirement is to ensure that the source maintains area source status for VOC and hazardous air pollutants.

PROCESS EQUIPMENT REQUIREMENTS – Cooling Towers (TW-3, TW-5, TW-6, TW-8, TW-9, TW-10 and TW-11)

Cooling Towers TW-3, TW-5, TW-6, TW-7, TW-8 and TW-9 were included in the original July 10, 1998 State Operating Permit in order to provide an enforceable limit on PM. Limits were calculated based on AP-42 emission factors. The replacement of Cooling Tower TW-7 with TW-10 was authorized in the June 6, 2002 NSR permit for the construction of Line 12 and found to meet BACT requirements. The addition of Cooling Tower TW-11 was authorized in the October 15, 2004 NSR permit for the construction of Line 13 and was also subject to BACT.

Limitations

- o Condition 9 of the 12/29/2015 SOP (Condition 64 of the Title V Permit) prohibits the use of chromium as a water treatment chemical for the cooling towers. *This condition was included so that the facility would not be subject to the Industrial Process Cooling Tower MACT (40 CFR 63, Subpart Q).*
- O Condition 26 of the 12/29/2015 SOP (Condition 62 of the Title V Permit) limits particulate emissions from the cooling towers. This is a BACT requirement, with emission limits mainly for inventory purposes. The permitted limits represent the PTE for the cooling towers.

Monitoring/Recordkeeping

o Condition 36(g) of the 12/29/2015 SOP (Condition 63 of the Title V Permit) requires records of yearly throughput of water, calculated monthly as the sum of each consecutive 12-month period. Although not designated as BACT in the underlying permit, this Condition provides an enforceable means to limit emissions based on BACT.

PROCESS EQUIPMENT REQUIREMENTS - Cold Solvent Cleaner (CSC)

The Cold Solvent Cleaner (CSC) is an existing Safety Kleen Parts Washer used for machinery maintenance. It is subject to Virginia Emission Standards for Existing Stationary Sources (Chapter 40, Article 24: Emission Standards for Solvent Metal Cleaning Operations Using Non-Halogenated Solvents).

Limitations

- O Condition 10 of the 12/29/2015 SOP (Condition 64 of the Title V Permit) requires that the cold solvent cleaner be equipped with a control method that will remove, destroy, or prevent the discharge into the atmosphere of at least 85 percent by weight of all volatile organic compound emissions. This requirement is taken from 9 VAC 5-40-3280 C Standard for volatile organic compounds (cold cleaning).
- O Condition 11 of the 12/29/2015 SOP (Condition 65 of the Title V Permit) prohibits the use of halogenated hazardous air pollutant containing solvents named in the NESHAP for Halogenated Solvent Cleaning (40 CFR 63, Subpart T). This condition was included so that the facility would not be subject to the Halogenated Solvent Cleaning MACT (40 CFR 63, Subpart T).
- O Condition 66 (Title V Permit) incorporates the operational requirements of the Virginia Existing Stationary Source Rule (Chapter 40, Article 24). These requirements were added as a means to demonstrate compliance with the control requirement contained in Condition 54 of the Title V permit.

The following Virginia Administrative Codes that have specific emission requirements have been determined to be applicable:

9 VAC 5-40-80: Emission Standards of Performance for Existing Stationary Sources – Emission Standards for Solvent Metal Cleaning Operations Using Non-Halogenated Solvents (Rule 4-24)

Monitoring/Recordkeeping

O Condition 36(h) and 36(n) of the 12/29/2015 SOP (Condition 67 of the Title V Permit) requires the permittee to keep records of the throughput and chemical composition (concentration by weight) of cleaning solvents used by the cold solvent cleaner. These records will be inspected to ensure compliance with the prohibition on halogenated solvents and the facility-wide HAP limits.

PROCESS EQUIPMENT REQUIREMENTS - Lindberg Oven

The Lindberg Oven (also called the "burn-off oven") is an electric oven used to remove solidified polymer from machine parts used in the polyolefin fiber manufacturing process. Polyamide polymer residue may result in the formation of trace quantities of NOx. However, the limitation on the number of operating cycles allowed per year results in emissions that are less than 0.5 tons/yr for all pollutants. This is an existing source. It is not subject to CAM because no control equipment is installed on the oven.

Limitations

O Condition 14 of the 12/29/15 SOP (Condition 68 of the Title V Permit) limits the number of cycles allowed per year. This limit is for inventory purposes, and was added in the State Operating Permit modification dated August 1, 2000.

Monitoring/Recordkeeping

o Condition 36(a) of the 12/29/15 SOP (Condition 69 of the Title V Permit) requires the source to keep records of the number of monthly and annual operating cycles for the Lindberg oven. These records will be inspected to ensure compliance with the limit on annual operating cycles.

PROCESS EQUIPMENT REQUIREMENTS - Oil/Water Separator (OWS)

The Oil/Water Separator separates water and lube oil from air compressors, as well as walpit oil and water from the polyolefin fiber manufacturing process. It is equipped with a sealed cover to minimize emissions.

Limitations

o Condition 8 of the 12/29/15 SOP (Condition 70 of the Title V Permit) requires the permittee to control VOC emissions from the Oil/Water Separator by using a sealed cover. *This is a BACT requirement*.

Monitoring/Recordkeeping

- o Condition 71 (Title V Permit) requires the permittee to inspect the OWS sealed cover to ensure that it is in proper working order. This requirement will ensure compliance with the operational requirement contained in Condition 60 of the Title V permit.
- o Condition 72 (Title V Permit) requires that the facility keep records of annual sealed cover inspections. These records will be inspected to ensure compliance with the requirements contained in Conditions 60 and 61 of the Title V permit.

FACILITY WIDE CONDITIONS

Facility-wide conditions apply generally to the facility, and were consolidated in this section to avoid repetition.

Limitations

- o Condition 30 of the 12/29/2015 SOP (Condition 73 of the Title V permit) limits hazardous air pollutant emissions to 10 tons per year of any individual HAP, or 25 tons per year of any combination of hazardous air pollutants. These limits give the facility area source status in terms of Hazardous Air Pollutants, even though it is major for Title V purposes.
- Condition 12 of the 12/29/2015 SOP (Condition 74 of the Title V permit) specifies work practice standards intended to minimize fugitive VOC emissions. This requirement is based on 9 VAC 5-50-20 F, compliance with provisions of 9 VAC 5 Chapter 50 (New and Modified Stationary Sources)

Monitoring/Recordkeeping

O Condition 36 of the 12/29/2015 SOP (Condition 75 of the Title V Permit) requires the source to maintain records of yearly throughput of VOC and hazardous air pollutants for any pollutant whose actual emissions are greater than 100 pounds in the most recent 12-month period, as well as safety data sheets (SDS) and the results of any visible emissions observations, visible emissions evaluations and performance evaluations. These records will be inspected to ensure compliance with the requirements contained in Conditions 63 and 64 of the Title V permit. In addition, records are required that can be used to determine compliance with emission and work practice standards.

Testing

- o Condition 76 (Title V Permit) requires that the facility be constructed to allow for emissions testing. This condition applies to the entire facility to enable the permittee to perform testing when necessary to demonstrate compliance with a permit or standard.
- Condition 77 (Title V Permit) requires that any testing is conducted in addition to the monitoring specified in the permit, the permittee shall use appropriate methods and procedures approved by DEQ. DEQ or EPA approval is required for compliance testing.

INSIGNIFICANT EMISSIONS UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9VAC5-80-110.

Insignificant emission units include the following:

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720B)	Rated Capacity (9 VAC 5-80-720C)
HT-19	Dowtherm Relief Storage Tank (pressurized)			100 gallons
HT-21	Gasoline Tank			250 gallons
HT-22	Mobifuel Diesel Fuel Tank			250 gallons
HT-24	Fire Pump Diesel Tank			225 gallons
1HT-5430	White Walpit Oil Horizontal Fixed Roof Tank (pressurized)			6000 gallons
Liquid	Liquid Nitrogen Storage			9000 gallons
Nitrogen	Tank (pressurized)			
VT-221	White Walpit Oil Vertical Fixed Roof Tank			600 gallons
VT-222	White Walpit Oil Vertical Fixed Roof Tank			600 gallons
VT-301	Recycled Oil Storage Tank	9 VAC 5-80-270B	VOC	600 gallons
VT-302	Recycled Oil Storage Tank			600 gallons
VT-7061	Aluminum non-HAP VOC Tank			3 gallons/min, 480 gallons
VT-01	Walpit Oil			440 gallons
HT-5430 A	Walpit Oil			8500 gallons
VT-5313	Walpit Oil (Line 5, 8)			1000 gallons
VT-5307	Slurry Oil (Line 5, 8)			240 gallons
HT-5876	Virgin chlorinated solvent			8250 gallons
HT-5880	Used chlorinated solvent			8250 gallons
VT-119	Walpit oil/water/ chlorinated solvent			2000 gallons
VT-100	Walpit Oil			300 gallons

Emission Unit No.	Emission Unit Description	Citation	Pollutant(s) Emitted (9 VAC 5-80-720B)	Rated Capacity (9 VAC 5-80-720C)
VT-5100	Walpit oil/ chlorinated solvent			700 gallons
VT-5101	Chlorinated solvent			300 gallons
VT-322	Walpit oil/chlorinated solvent – SRU			300 gallons
BB 2	Walpit oil/ chlorinated solvent			70 gallons
BB 3	Walpit oil/ Chlorinated solvent			300 gallons
BB 4	Walpit oil/ Chlorinated solvent			300 gallons
VT-2918	Walpit Oil Slurry			79 gallons
VT-5784	Walpit Oil Slurry			79 gallons
VT-1000	Walpit Oıl			517 gallons
VT-5413	Walpit oil/ chlorinated solvent	9 VAC 5-80-270B	VOC	600 gallons
D-5447	Walpit oil/ chlorinated solvent	9 VAC 3-80-270B	VOC	1000 gallons
VT-5829	Walpit oil/water			151 gallons
VT-5674	Dirty walpit oil			1043 gallons
VT-5678	Clean walpit oil			1580 gallons
VT-398	Walpit oil	1		100 gallons
HT-5413	Therminol	1		30 gallons
HT-154	Therminol	1		49 gallons
HT-1012	Therminol	1		200 gallons
HT-5319	Therminol	1		235 gallons
HT-6047	Therminol	1		150 gallons
Used Oil	Used Lube Oil Tank			400 gallons

¹The citation criteria for insignificant activities are as follows:

⁹VAC5-80-720 A - Listed Insignificant Activity, Not Included in Permit Application

⁹VAC5-80-720 B - Insignificant due to emission levels

⁹VAC5-80-720 C - Insignificant due to size or production rate

INAPPLICABLE REQUIREMENTS

Citation	Title of Citation	Description of Applicability
9 VAC Chapter 40, Article 8	Existing Stationary Sources: Emission Standards for Fuel Burning Equipment	SOP emission limitations on boilers SG-1 and SG-2 based on AP-42 factors are more stringent than those contained in 9 VAC 5-40-930. The visible emissions standard of 9 VAC 5-40-80 is equivalent to that of 9 VAC 5-40-940.
40 CFR 60 (NSPS)	New Source Performance Standards for Small Industrial-Commercial- Institutional Steam Generating Units	The boilers (SG-1 and SG-2) are not subject to NSPS Subpart Dc for boilers (with capacity greater than 10 MMBtu/hr, but less than 100 MMBtu/hr), since they were constructed before June 9, 1989.
40 CFR 60 (NSPS) Subpart IIII	New Source Performance Standards – Standards of Performance for Stationary Compression Ignition Internal Combustion Engines	The Cummins Diesel Fire Pump Engine (CP-99 is not subject to NSPS Subpart IIII because it was constructed prior to July 1, 2006.
40 CFR 60 (NSPS), Subpart JJJJ	New Source Performance Standards - Standards of Performance for Stationary Spark Ignition Engines	o The Generac Emergency Engine (GG-01) is a propane-fired engine with maximum engine power >19 kW(25 HP), but it is not subject to NSPS Subpart JJJJ because it was manufactured before 2001.
40 CFR 63, Subpart Q	National Emission Standards for Hazardous Air Pollutants for Industrial Process Cooling Towers	The MACT is not applicable, since the State Operating Permit (and Title V Permit) prohibits the use of chromium.
40 CFR 63, Subpart JJJJJJ	National Emission Standards for Hazardous Air Pollutants for Industrial, Commercial, and Institutional Boilers Area Sources	The subpart does not apply to boilers SG-1 and SG-2 because they are authorized to use natural gas fuel only.

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9VAC5-80-110 that apply to all Federal-operating permitted sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

Federal Enforceability

Article 1 (9VAC5-80-110 N) states that all terms and conditions in the Title V permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.

Permit Expiration

This condition refers to the Board taking action on a permit application. The "Board" refers to the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by §2.2-604 and §10.1-1185 of the *Code of Virginia*, and the "Department of Environmental Quality Agency Policy Statement No. 2-09".

This general condition cite(s) the Article(s) that follow(s):

(For TV): Article 1 (9VAC5-80-50 et seq.), Part II of 9VAC5 Chapter 80. <u>Federal Operating Permits for Stationary Sources</u>

This general condition cites the sections that follow: 9VAC5-80-80. Application 9VAC5-80-140. Permit Shield 9VAC5-80-150. Action on Permit Applications

Failure / Malfunction Reporting

Section 9VAC5-20-180 requires malfunction and excess emission reporting within four hours of discovery. Section 9VAC5-20-180 is from the general regulations. All affected facilities are subject to section 9VAC5-20-180 including Title V facilities. A facility may make a single report that meets the requirements of 9VAC5-20-180. The report must be made within four daytime business hours of discovery of the malfunction.

In order for emission units to be relieved from the requirement to make a written report in 14 days the emission units must have continuous monitors meeting the requirements of 9VAC5-50-40 or 9VAC5-40-41.

This general condition cites the sections that follow:

9VAC5-40-41. Emissions Monitoring Procedures for Existing Sources

9VAC5-40-50. Notification, Records and Reporting

9VAC5-50-50. Notification, Records and Reporting

This general condition contains a citation from the Code of Federal Regulations as follows: 40 CFR 60.13 (h). Monitoring Requirements.

Permit Modification

This general condition cites the sections that follow:

9VAC5-80-50. Applicability, Federal Operating Permit for Stationary Sources

9VAC5-80-190. Changes to Permits

9VAC5-80-260. Enforcement

9VAC5-80-1100. Applicability, Permits For New and Modified Stationary Sources

9VAC5-80-1605. Applicability, Permits For Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas

9VAC5-80-2000. Applicability, Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas

Asbestos Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61 Subpart M, National Emission Standards for Asbestos.

This general condition contains a citation from the Code of Federal Regulations that follows: 40 CFR 61.145, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.

40 CFR 61.148, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to insulating materials.

40 CFR 61.150, NESHAP Subpart M. National Emissions Standards for Asbestos as it applies to waste disposal.

This general condition cites the regulatory sections that follow:

9VAC5-60-70. Designated Emissions Standards

9VAC5-80-110. Permit Content

CONFIDENTIAL INFORMATION

The permittee did submit confidential and non-confidential versions of their Title V renewal application. The DEQ approved the basis of confidentiality for the confidential version. However, because of the confidential units, it was unnecessary to create two versions of the Title V permit. There is only one version of the Title V permit renewal (and Statement of Basis), and it does not contain any confidential information.

PUBLIC PARTICIPATION

The proposed permit was placed on public notice in the <u>Richmond Times-Dispatch</u> on July 14, 2017. The public notice period ran from July 14, 2017 to August 14, 2017, with no comments received from the public. The draft permit was also sent to EPA Region III for review concurrent review on July 14, 2017. Based on comments received from EPA on August 14, 2017, a revised "proposed" permit was sent to EPA on August 24, 2017 for additional review. An e-mail was received from EPA the same day indicating that the proposed permit addressed the previous comments and that no there were no additional comments.